Glossary

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Glossary

This glossary defines key terms and lists acronyms used in the Delta Plan. ~~Definitions in the following list of terms are derived from the following sources wherever possible: applicable State law or code definitions, recent or concurrent related studies or publically available documents (such as Bay Delta Conservation Plan, the California Water Plan Update 2009, the Ecosystem Restoration Program, and others), existing California agency information available on web sites, and federal agency information available on web sites.~~

Term	Definition
100-year flood	A flood event having a 1-in-100 chance of being equaled or exceeded in any given year~~, based on hydrological modeling and other engineering criteria accepted by the Department of Water Resources (DWR) (Government Code sec. 65300.2(a))~~.
200-year flood	A flood event having a 1-in-200 chance of being equaled or exceeded in any given year~~, based on hydrological modeling and other engineering criteria accepted by DWR (Government Code sec. §65300.2(a))~~.
acre-foot	The volume of water that would cover 1~~one~~ acre of land to a depth of 1 foot; equal to 43,560 cubic feet or 325,851 gallons.
accommodation space	The space in the Delta that lies below sea level and is filled with neither sediment nor water. ~~Space that is available for the accumulation and preservation of the influx of sediment into the Delta.~~ ~~In estuarine settings like the Sacramento-San Joaquin Delta, the formation and destruction of accommodation space controls the distribution and character of sediment deposition and related environmental conditions at large scales. For any given interval of time, accommodation space is created by worldwide sea-level rise and subsidence of the bed, typically associated with sediment compaction and tectonic subsidence of the crust. The worldwide rise (or fall) of sea level and the rate of subsidence control the rate at which accommodation space is either created or lost (Mount and Twiss, 2005).~~
adaptive management	A framework and flexible decision-making process for ongoing knowledge acquisition, monitoring, and evaluation leading to continuous improvements in management planning and implementation of a project to achieve specified objectives Water Code section~~.~~ 85052).
administrative procedure~~s~~	~~Administrative Rules for Governing Appeals.~~ Procedures adopted by the Delta Stewardship Council (Council), in accordance with ~~per~~ Water Code section 85225.30, ~~which~~that govern how the Council considers appeals with ~~regard~~respect to the following: (1~~a~~) Adequacy of certifications of consistency with the Delta Plan submitted to the C~~c~~ouncil by a S~~s~~tate or local agency pursuant to Water Code section~~-tion~~ 85225.10~~,~~ , and (2~~b~~) Determinations by the California Department of Fish and Game that the Bay Delta Conservation Plan has met the requirements of Water Code section 85320 for inclusion in the Delta Plan.
advanced treatment	Any treatment of sewage that goes beyond the secondary or biological water treatment stage and includes the removal of nutrients, ~~such as~~including phosphorus, ~~and~~ nitrogen, and a high percentage of suspended solids.
agricultural water management plan	A plan prepared and adopted by an agricultural water supplier that~~:~~ describes the agricultural water supplier and the service area; describes the quantity and quality of water resources of the agricultural water supplier~~.~~; includes an analysis, based on available

	information, of the effect of climate change on future water supplies; and describes previous water management activities (Water Code section 10826). The plan also must include~~s:~~ a report on which efficient water management practices have been implemented and are planned to be implemented; an estimate of the water use efficiency improvements that have occurred since the last report; and an estimate of the water use efficiency improvements estimated to occur 5~~five~~ and 10 years in the future (Water Code section 10608.48(d)). An agricultural water supplier ~~shall~~must prepare and adopt an agricultural water management plan on or before December 31, 2012, and ~~shall~~must update that plan on December 31, 2015, and on or before December 31 every 5 years thereafter (Water Code section 10820(a)).
Aeration Facility	Demonstration Dissolved Oxygen Aeration Facility
agricultural water supplier	~~A water supplier, either~~A publicly or privately owned~~,~~ water supplier that provides~~ing~~ water to 10,000 or more irrigated acres, excluding recycled water. ~~"~~Agricultural water supplier~~"~~ includes a supplier or contractor for water, regardless of the basis of the water right, that distributes or sells water for ultimate resale to customers. ~~"~~Agricultural water supplier~~"~~ does not include California Department of Water Resources~~DWR~~ (Water Code section 10608.12(a)).
agricultural water use	~~Uses of w~~Water used for farming, horticulture, or ranching~~,~~ including irrigation, stock watering, or support of vegetation for range grazing. This ~~i~~includes water used for irrigation and nonirrigation purposes. Irrigation water use includes the artificial application of water on land~~s~~ to promote the growth of crops and pasture, or to maintain vegetative growth in recreational lands, parks, and golf courses. Non-irrigation water use includes water used for livestock, which includes water for stock watering, feedlots, and dairy operations, and fish farming and other farm ~~needs~~requirements.
agricultural water use efficiency	Defined by California Department of Water Resources as ~~T~~the ratio of applied water to the amount of water required to sustain agricultural productivity. Efficiency is increased through the application of less water to achieve the same beneficial productivity or by achieving more productivity while applying the same amount of water.
anticipated future stressors	Stressors that require preparation and planning for mitigation in advance of their onset (for example, future land subsidence, urban expansion, and new invasions by nonnative species).
artesian water	A groundwater aquifer under positive pressure. In some cases the hydrostatic equilibrium elevation of the groundwater is higher than the elevation of the surrounding ground surface. When an artesian aquifer is penetrated by a well, the water level will rise above the top of the aquifer, and even flow out of the ground.
BAFF	bio-acoustic fish fence
base camp	A park, resort, or town that provides services (~~such as~~for example, park rangers, interpretation, and boat rentals) ~~as well as~~and facilities (for example, ~~such as~~ parking, restrooms, picnic sites, boat ramps, and campgrounds). The mix of facilities is determined by adjacent recreation opportunities and nearby public and private facilities.
basin plan	~~A Basin Plan establishes a~~A water quality control plan for a specific basin or region in California. It includes a comprehensive program of actions designed to preserve, enhance, and restore water quality in ~~all water bodies within California~~that basin. The b~~B~~asin ~~P~~plan is the ~~each Regional Water Quality Control Board's~~ master water quality control planning document for the regional boards. It ~~designates~~describes beneficial uses of surface water and groundwater, and establishes water quality objectives ~~that~~to protect those uses.
Bay Plan	San Francisco Bay Plan
Bay-Delta Plan	Bay-Delta Water Quality Control Plan
BCDC	San Francisco Bay Conservation and Development Commission
BDCP	Bay Delta Conservation Plan
beneficial uses	Uses of the waters of the state that include domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation

	and enhancement of fish, wildlife, and other aquatic resources or preserves. ~~This is the California term for "designated uses" of water that are components of water quality standards. California law defines "beneficial uses" as uses of surface water and groundwater that may be protected against water quality degradation. Beneficial uses of water may be found in the Water Quality Control Plans adopted by the Water Boards.~~
beneficiaries ~~(Delta)~~	Entities that~~Those who~~ benefit from using the resources of the Delta, ~~such as~~including water supply, conveyance, and recreation.
benthic	~~Bottom-dwelling organism~~The collection of organisms living on or in sea, lake, or river bottoms.
best available science	~~Using thet~~The best scientific information and data ~~to assist~~for informing management and policy decisions. Best available science is specific to the decision being made and the time frame available for making that decision. Best available science is consistent with the scientific process, including the following elements: (1) well-stated objectives, (2) a clear conceptual or mathematical model, (3) a good experimental design with standardized methods for data collection, (4) statistical rigor and sound logic for analysis and interpretation, and clear documentation of methods, results, and conclusions. Best available science is developed ~~through a process that~~and applied in a manner that meets the six criteria of (1) relevance, (2) inclusiveness, (3) objectivity, (4) transparency and openness, (5~~)~~) timeliness, and (6) peer review~~. Best available science is consistent with the scientific process~~method.
bBest mManagement Ppractices (BMP~~s~~)	~~Methods, measures, or practices selected by an agency to meet a specific goal.~~ Methods or techniques found to be the most effective and practical means of achieving an objective, such as water conservations. BMPs include, but are not limited to, structural and nonstructural controls, and operation and maintenance procedures. ~~Goals are diverse and examples include the use of best available science or adaptive management, increasing water use efficiency, increasing reservoir storage, maintaining groundwater aquifers, and preserving wildlife habitat.~~ Examples of water conservation BMPs include tiered rate structures and water-efficient plumbing and irrigation systems.
bioaccumulation	The process by which a chemical is taken up by an aquatic organism, both from direct exposure to water and through the consumption of food containing the chemical.
biological opinion	A document ~~that is the product of formal consultation,~~stating the opinion of the U.S. Fish and Wildlife Service or the National Marine Fisheries Service ~~on~~as to whether or not ~~a~~ ~~F~~federal action is likely to jeopardize the continued existence of a threatened or endangered species, or result in the destruction or adverse modification of critical habitat.
biomagnify, biomagnification	~~t~~The sequence of processes in an ecosystem by which higher concentrations of a particular chemical, a pesticide for example~~such as the pesticide DDT~~, are reached in organisms higher up the food chain, generally through a series of prey-predator relationships.
bypass	An ~~flood bypass is a region~~an area of land or a large, constructed ~~man-made~~ structure ~~that is~~ designed to convey excess flood~~-~~waters from a river or stream in order to reduce the risk of flooding on the natural river or stream near a ~~key point of interest, such as a~~ city~~.~~ or other population center.
Cal EMA	California Emergency Management Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
carbon sequestration	The process of removing carbon from the atmosphere and storing it. Trees and plants, for example, absorb carbon dioxide, release the oxygen, and store the carbon in their biomass. The stored biomass may eventually turn to peat, other soil-borne organic matter, and fossil fuels such as coal or petroleum that will continue to store the carbon until the fuels are burned.
CASGEM	California Statewide Groundwater Elevation Monitoring Program
CDFA	California Department of Food and Agriculture
centrarchids	Small, carnivorous, freshwater, spiny-finned fishes of North America usually having a laterally compressed body and metallic luster (for example, largemouth bass, smallmouth bass, spotted bass, bluegill, warmouth, redear sunfish, green sunfish, white crappie, and

	black crappie).
certification of consistency	The written certification to the Delta Stewardship Council, with detailed findings, that ~~the~~a covered action is consistent with the Delta Plan ~~(Water Code section 85225 et seq.)~~. Certifications of consistency are submitted to the Delta Stewardship Council by the State or local agency that is proposing to carry out, fund, or approve a covered ~~that is the lead~~action under the California Environmental Quality Act ~~(CEQA) agency for the covered action~~ (Water Code section 85225 et seq.).
CEQA	California Environmental Quality Act
cfs	cubic feet per second
channelization	(1) Natural or intentional straightening and deepening of streams through dredging or construction of levees. (2) A marsh-drainage tactic that can disturb fish and wildlife habitats, aggravate flooding, and decrease the capacity to absorb pollution without suffering damage.
climate change	~~Climate change refers to a~~Any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from (1) natural factors, ~~such as~~including changes in the sun's intensity or ~~slow~~ changes in the ~~E~~earth's orbit around the sun, (2) natural processes within the climate system (such as~~e.g.~~ changes in ocean circulation), or (3) human activities that change the composition of the atmosphere~~'s composition~~ (for example, ~~e.g.~~ through burning fossil fuels) and ~~the~~ land surfaces (for example,~~e.g.~~ deforestation, reforestation, urbanization, and desertification~~, etc.~~).
CO_2	carbon dioxide
coequal goals	The two goals of providing a more reliable water supply for California, and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals must ~~shall~~ be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place (Water Code section 85054).
commercial visitor-serving uses	A land use designation that describes~~providing for~~ visitor-serving uses such as accommodations, restaurants, shopping, and services. ~~stores, shops, bed and breakfast inns, public and private recreational facilities that provide accommodations, food and services. Includes hotels and motels,~~ These uses also include campgrounds~~, parks, nature preserves, restaurants,~~ and commercial recreational development ~~such as shopping, eating, and amusement areas~~ that are used by the traveling public.
conceptual model	An explicit description of mental models, knowledge, and hypotheses about the structure and function of a system or process.
conjunctive management ~~(use)~~	The ~~C~~coordinated and planned management of both surface water and groundwater resources ~~in order~~ to maximize ~~the~~ efficient water use ~~of the resource;~~, ~~that is, the planned and managed operation of a groundwater basin and a surface water storage system combined through a coordinated conveyance infrastructure.~~ Water is stored in ~~the~~ groundwater basins for ~~later~~future ~~and planned~~ use by intentionally recharging the basin during years of above-average surface water supply. Surface water and groundwater resources typically differ significantly in their availability, quality, management ~~needs~~requirements, and development and use costs. Managing both resources together, rather than in isolation from ~~one another~~one another, allows water managers to use the advantages of both resources for maximum benefit.
conveyance	~~Provides for~~The movement of water from one place to another. Conveyance infrastructure includes natural watercourses as well as ~~constructed facilities like~~ canals, ~~and~~ pipelines, and~~including~~ control structures ~~such as~~including weirs. Examples of natural watercourses include streams, rivers, and groundwater aquifers. Conveyance facilities range in size from small, local, end-user distribution systems to ~~the~~ large systems that deliver water to or drain areas ~~as large as~~covering multiple hydrologic regions. Conveyance facilities ~~also~~ require associated infrastructure ~~such as~~including pumping plants, ~~and~~ power supply, diversion structures, fish ladders, and fish screens.
Council	Delta Stewardship Council
covered action	~~"Covered action" means a~~A plan, program, or project, as defined ~~pursuant to~~in ~~S~~section 21065 of the Public Resources Code, that meets all of the following conditions:

	(1) Will occur, in whole or in part, within the boundaries of the Delta or Suisun Marsh. (2) Will be carried out, approved, or funded by the State or a local public agency. (3) Is covered by one or more provisions of the Delta Plan. (4) Will have a significant impact on achievement of one or both of the coequal goals or the implementation of government-sponsored flood control programs to reduce risks to people, property, and S~~s~~tate interests in the Delta~~.~~ (Water Code section 85057.5(a)). A covered action does not include an action exempted by statute (Water Code section 85057.5(b)) or ~~administratively~~by regulation under the ~~in this~~ Delta Plan ~~(see Chapter 2, The Delta Plan)~~.
critical habitat	Specific areas, both occupied and unoccupied, that are essential to the conservation of a listed species and that may require special management considerations or protection (as defined in s~~S~~ection 3 of the federal Endangered Species Act).
current stressors	Stressors that result from ongoing human activities that can, in some cases, be eliminated (for example, ~~e.g.~~ fish entrainment at water diversions).
CVFPP	Central Valley Flood Protection Plan
CVP	Central Valley Project
CV-SALTS	Central Valley Salinity Alternatives for Long-Term Sustainability Program
CWA	Clean Water Act
CZMA	Coastal Zone Management Act of 1972
DDT	dichlorodiphenyltrichloroethane
dedicated (or developed) water	Defined by California Department of Water Resources (DWR) as water distributed among urban and agricultural uses, used for protecting and restoring the environment or storage in surface water and groundwater reservoirs. In any year, some of the dedicated supply includes water that is used multiple times (reuse) and water that is held in storage from previous years. DWR identifies California's average annual dedicated water supply as 85 million acre-feet. See *total water use*.
Delta, Sacramento-San Joaquin	The Sacramento-San Joaquin Delta as defined in Water Code section 12220. For purposes of the Delta Plan, the Delta also includes the Suisun Marsh, as defined in Public Resources Code section~~.~~ 29101.
Delta Conservancy	Sacramento–San Joaquin Delta Conservancy
Delta Ecological Management Zone	The Delta conservation strategy adopted by the ~~California~~ Department of Fish and Game~~'s~~ as the *Ecosystem Restoration Program Conservation Strategy for Restoration of the Sacramento-San Joaquin Delta Ecological Management Zone and the Sacramento and San Joaquin Valley Regions*.
Delta exports	Describes, ~~I~~in general terms, any water diverted from the Delta for use outside ~~of~~ the Delta, ~~such as~~including water pumped by the State Water Project~~SWP's Banks~~ and Central Valley Project~~CVP's Jones~~ pumping plants, Contra Costa Water District, ~~or~~and other agencies. The term must be precisely defined when applied to specific studies or analyses.
Delta Flood Risk Management Assessment District	As ~~P~~proposed ~~by~~in the Delta Plan, an ~~new~~ assessment district ~~with fee setting~~ authorized to set fees ~~(including over State infrastructure)~~on State and local infrastructure to ~~provide~~generate funds for levee maintenance and surveys, adequate flood control protection and emergency response for the ~~regional~~ benefit of ~~all beneficiaries, including~~ landowners, infrastructure owners, and other entities that benefit from the maintenance and improvement of Delta levees, ~~such as~~including water users who rely on the levees to protect water quality.
Delta Independent Science Board (Delta ISB)	Established by the Delta Reform ~~Act~~ Act~~[85280 (a)(3)]~~, the ~~Delta Independent Science Board (~~Delta ISB~~)~~ is a standing board of nationally ~~or~~and internationally prominent scientists with appropriate expertise to evaluate the broad range of scientific programs that support adaptive management of the Delta. The Delta ISB will provide oversight of the scientific research~~,~~ and monitoring~~,~~ and assessment programs that support adaptive management of the Delta through periodic reviews of each of those programs. The overall objective of Delta ISB oversight is to help make the science underlying Bay-Delta programs, the application of that science, and the technical aspects of those programs the

	best ~~that~~ they can be (Water Code section 85280 et seq.).
Delta Levee Special Flood Control Projects	A California Department of Water Resources ~~DWR~~ program, authorized in Water Code sections 12300 through 12314, that provides financial assistance to local levee maintaining agencies for rehabilitating~~on of~~ levees in the Delta. ~~The program presently focuses on flood control projects and related habitat projects for eight western Delta islands—Bethel, Bradford, Holland, Hotchkiss, Jersey, Sherman, Twitchell, and Webb Islands—and for the Towns of Thornton and Walnut Grove.~~
Delta Multi-Hazard Coordination Task Force	A ~~This~~ task force ~~was~~ established to address emergency preparedness and response issues in the Delta by enabling the development and implementation of multi-hazard preparedness and response strategies for the Delta. Led by the California ~~EMA~~Emergency Management Agency (Cal EMA), the t~~T~~ask f~~F~~orce consisted of representatives from the Delta Protection Commission, California Department of Water Resources, ~~(DWR)~~ and representatives of the five Delta counties. The passage of Senate Bill~~B~~ 27 in 2008 required ~~the California Emergency Management Agency (~~Cal EMA, formerly the Office of Emergency Services~~)~~, to establish the task force.
Delta Primary Zone	~~This zone is t~~The Sacramento-San Joaquin River Delta land and water area of primary State concern and statewide significance~~described in Section 12220 of the Water Code~~, ~~but not within~~that does not encompass either the urban limit line or sphere of influence line of any local government~~'s~~ general plan or stud~~ies~~y existing as of January 1, 1992. The precise boundary lines of the P~~p~~rimary Z~~z~~one include~~s~~ the land and water areas as shown on the map titled "Delta Protection Zones" on file with the California State Lands Commission. Where the boundary between the Primary Zone and Secondary Zone is a river, stream, channel, or waterway, the boundary line is the middle of that river, stream, channel, or waterway. The Primary Zone consists of approximately 500,000 acres~~.~~ (Public~~.~~ Resources Code section~~.~~ ~~Cal. Pub. Resources Code Section~~ 29728).
Delta Reform Act of 2009	~~The Delta Reform Act, contained~~Included in Senate Bill~~SB~~ X7~~-~~1, ~~was passed with bipartisan support and~~ established a new governance approach for the Sacramento-San Joaquin Delta that is focused on achieving the coequal goals and is fundamentally different from past approaches. The Delta Reform Act created the Delta Stewardship Council and gave it the direction and authority to serve two primary governance roles: (1) set a comprehensive, legally enforceable direction for how the State manages important water and environmental resources in the Delta through the adoption of a Delta Plan, and (2) ensure coherent and integrated implementation of that direction through coordination and oversight of S~~s~~tate and local agencies proposing to fund, carry out, and approve Delta-related activities.
Delta Secondary Zone	All the Delta land and water area within the boundaries of the Delta not included within the Primary Zone, subject to the land use authority of local government, and that includes the land and water areas as shown on the map titled "Delta Protection Zones" on file with the State Lands Commission. ~~This zone is the Sacramento-San Joaquin River Delta land and water area within the boundaries of the legal Delta not included within the Primary Zone as shown on the map referenced in Delta Primary Zone above.~~ The Secondary Zone consists of approximately 238,000 acres~~.~~ (Public Resources Code section 29731).
Delta watershed	The watershed of the Sacramento River Hydrologic Region and the San Joaquin River Hydrologic Region as described in the ~~DWR's~~California Water Plan Update 2005, Bulletin 160-05 (Water Code section 85060).
demand management measures	Water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable use and reuse of available supplies.
desalination	A ~~W~~water treatment process for the removal of salt from water for beneficial use. Source water can be brackish (low salinity) or sea water.
DFG	California Department of Fish and Game
diversion	A process which, having return flow and consumptive use elements, turns water from a given path. Removal of water from its natural channel for human use. Use of part of a stream ~~-~~flow as a water supply. Channel constructed across the slope for the purpose of intercepting surface runoff, changing the accustomed course of all or part of a stream. A structural conveyance (or ditch) constructed across a slope to intercept runoff flowing down a hillside, and divert it to some convenient discharge point.

DO	dissolved oxygen
DPC	Delta Protection Commission
drinking water quality	Drinking water quality standards are adopted by the California Department of Public Health (CDPH) Drinking Water Program pursuant to the California Safe Drinking Water Act. They~~-~~ standards ~~directly~~ apply to public drinking water systems and to water delivered to customers and are enforceable by CDPH and local health departments.
drought	Hydrologic conditions during a defined period, greater than 1~~one~~ dry year, when precipitation and runoff are much less than average.
DWR	California Department of Water Resources
DWR 200 Year	DWR 200-year Urban Levee Protection
ecosystem	A biotic community ~~together with~~and its physical environment, considered as an integrated unit. Implied within this definition is the concept of a structural and functional whole unified through life processes. An ecosystem may be characterized as a viable unit of community and interactive habitat. Ecosystems are hierarchical and can be viewed as nested sets of open systems in which physical, chemical, and biological processes form interactive subsystems. Some ecosystems are microscopic, and the largest comprises the biosphere. Ecosystem restoration can be directed at different-sized ecosystems within the nested set, and many encompass multiple states, more localized watersheds, or a smaller complex of aquatic habitat.
ecosystem enhancement	~~Improving~~The improvement of existing desirable habitat and natural processes. Enhancement might include flooding the Yolo Bypass more often, at times, to support~~supportive of~~ native species, or expand~~ing~~ or better connect~~ing~~ existing habitat areas. Enhancement also includes many fish and wildlife management practices, ~~such as~~including managing wetlands for waterfowl production or shorebird habitat, installing fish screens to reduce entrainment of fish at water diversions, or removing barriers that block migration of fish to upstream spawning habitats.
ecosystem protection	Preventing harm to an ecosystem, which could include preventing the conversion of existing habitat, the degradation of water quality, irretrievable conversion of lands suitable for restoration, or the spread of invasive nonnative species.
ecosystem restoration	The application of ecological ~~principals~~principles to restore a degraded or fragmented ecosystem and return it to a condition in which its biological and structural components achieve a close approximation of its natural potential, taking into consideration the physical changes that have occurred in the past and the future impact of climate change and sea-level rise (Water Code section 85066).
Ecosystem Restoration Program Conservation Strategy	~~This Conservation Sstrategy d~~Describes the Ecosystem Restoration Program (ERP) priorities and actions for Stage 2 of the CALFED Bay-Delta Program (summarized in Appendix C). It identifies biologically promising ecosystem restoration opportunities in the Sacramento-San Joaquin Delta Ecological Management Zone ~~(Delta EMZ)~~ and the Sacramento Valley and San Joaquin Valley r~~R~~egions as defined in CALFED (2001a), and it provides the rationale for restoration actions specific to each of these regions. It further provides the conceptual framework and process to guide the refinement, evaluation, prioritization, implementation, monitoring, and review of ERP actions.
ecosystem water quality	The Delta ecosystem is affected by a variety of pollutants discharged into Delta and tributary waters. Pollutants of concern affecting Delta biological species and ecosystem processes include nutrients, pesticides, mercury, selenium, and other persistent bioaccumulative toxic substances. Newly identified pollutants of potential concern (often referred to as emerging contaminants) also ~~need to~~should be investigated.
encroachment	For purposes of the Delta Plan, ~~A~~any obstruction or physical intrusion by construction of works or devices, planting or removal of vegetation, or by ~~whatever~~any means for any purpose, into or otherwise affecting a floodway or a floodplain.~~any of the following: (1) any flood control project works;(2) the waterway area of the project; (3) the area covered by an adopted plan of flood control; or (4) any area outside the above limits, if the encroachment could affect any of the above. (Title 23 CCR, Division 1, Chapter 1, Article 2, Section 4). (Board, 2010)~~
endangered species	As defined by the California Endangered Species Act, an ~~"E~~"endangered species~~" means~~is

	a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that ~~which~~ is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease. Any species determined by the commission as ~~"~~endangered~~"~~ on or before January 1, 1985, is an ~~"~~endangered species.~~"~~ (~~California~~ Fish and Game Code ~~S~~section 2062).
entrainment	~~Fishentrainment is d~~Defined by the National Marine Fisheries Service as "the incidental trapping of any life stage of fish within waterways or structures that carry water being diverted for anthropogenic use~~".~~."
environmental water	Minimum flow levels of a specific quality that are~~is~~ needed in order to assure the continued viability of fish and wildlife resources for a particular water body. This ~~is~~ water ~~that~~ is used to maintain and enhance the beneficial uses related to the preservation and enhancement of fish, wildlife, and other aquatic resources or preserves as specified in the Porter/Cologne Water Quality Control Act~~, 2008~~.
environmental water use	Water dedicated to instream environmental needs.
EPRRP	Emergency Preparedness Response and Recovery Program
ERP	Ecosystem Restoration Program
ESA	Endangered Species Act
ESP	The Delta Protection Commission's Economic Sustainability Plan for the Sacramento-San Joaquin Delta
estuary	A place where fresh and salt water mix, such as a bay, salt marsh, or where a river enters an ocean.
expanded water supply reliability element	~~Water suppliers should include~~aAdditional information water suppliers should include in their water supply reliability element, starting in 2015, as part of the update of ~~its~~any ~~U~~urban ~~W~~water m~~M~~anagement p~~P~~lan, a~~A~~gricultural w~~W~~ater m~~M~~anagement p~~P~~lan, i~~I~~ntegrated w~~W~~ater m~~M~~anagement p~~P~~lan, or other plan that provides equivalent information on the supplier's planned investments in water conservation and water supply development. This expanded water supply reliability element ~~shall~~must detail how water suppliers are improving regional self-reliance and reducing reliance on the Delta through investments in local and regional programs and projects, and must~~shall~~ document actual and projected reductions in reliance on Delta exports. At a minimum, the w~~W~~ater r~~R~~eliability e~~E~~lement must~~shall~~ include the following: (1) A plan for possible interruption of Delta water supply due to catastrophic events. (2) A plan for implementation of anticipated investments in water conservation, water efficiency, and water supply development. (3) Evaluation of regional water balance. (4) Conservation-oriented water rate structure.
expected annual damage (EAD)	A metric for analyzing flood risk ~~which~~ that integrates the likelihood and consequences of flooding. Generally defined as the average annual flood damages (in dollars) weighted by the probability that a flood will occur in any given year. The U.S. Army Corps of Engineers describes EAD mathematically in *Manual No. 1110-2-1619, Risk-Based Analysis for Flood Damage Reduction Studies*, August 1, 1996.
feasible	Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors~~.~~ (Public Resources Code section ~~21206.1~~21061.1).
FEMA	Federal Emergency Management Agency
FEMA 100 Year	FEMA 100-year (Base Flood) Protection
flood risk	The likelihood and consequence of inundation by flood waters. ~~The c~~Consequences may ~~be~~include direct or indirect economic costs, loss of life, environmental impacts, or other specified measures of flood effect. Flood risk is a function of (1~~i~~) loading, which is the frequency and magnitude of flood discharge or stage; (2~~ii~~) limits to exposure to the loading due to flood defense measures; and (3~~iii~~) consequence. Therefore, flood management actions may reduce risk by changing loading, exposure, or consequence. For clarity, flood

	risk is commonly quantified within an identified area for a specified climate condition, land use condition, and with a flood management system (existing or planned) in place.
f~~F~~loodplain	Any land area susceptible to being inundated by flood~~-~~waters from any source.
f~~F~~lood-proofing	The modification of individual structures and facilities, their sites, and their contents to protect against structural failure, to keep water out, or to reduce effects of water entry. Flood-proofing can be achieved through several methods described by the Federal Emergency Management Agency.
f~~F~~loodway	The portion of the floodplain that is effective in carrying flow (that is, the channel of a river or other watercourse and the adjacent land areas that convey flood~~-~~waters).
floodplain values and functions	Refers to natural values that carry out numerous functions important to the public interest, including water resources values (natural moderation of floods, water quality maintenance, and groundwater recharge); living resource values (fish, wildlife, and plant resources); cultural resource values (open space, natural beauty, scientific study, outdoor education, and recreation); and cultivated resource values (agriculture, aquaculture, and forestry).
f~~F~~low criteria	~~Flow criteria is specified in Water Code section 85086, wherein the~~The development of specific criteria by the State Water Resources Control Board ~~is required to develop specific criteria~~ for flows for the Delta ecosystem, including the volume, quality, and timing of water ~~that are~~ necessary ~~to protect public trust resources.~~ for the Delta ecosystem under different conditions (Water Code section 85086(c)(1).
flow objectives	~~These are water quality objectives for flow.~~ Where protection of beneficial uses requires specific flow volumes at certain times, ~~the~~ regional water quality control boards may establish flow objectives in w~~W~~ater q~~Q~~uality c~~C~~ontrol p~~P~~lans. They differ from typical water quality objectives in that they are implemented by the State Water Resources Control Board through modifications and limitations of existing or future water rights to make sure ~~ensure~~ these flows are met.
flow regime	~~Five critical components of the flow regime is t~~The regulat~~e~~ion of ecological processes in river ecosystems: the magnitude, frequency, duration, timing, and rate of change of hydrologic conditions (Poff and Ward 1989, Richter et al. 1996, Walker et al. 1995). These components can be used to characterize the entire range of flows and specific hydrologic phenomena, ~~such as~~including floods or low flows, that are critical to the integrity of river ecosystems. Furthermore, by defining flow regimes in these terms, the ecological consequences of particular human activities that modify one or more components of the flow regime can be considered explicitly.
flow requirements	The amount of water required for instream use by agreement, water rights permit, or State/federal ~~acts~~law.
freeboard	The height of the physical top of a levee or floodwall above the median design water surface elevation.
gateway	A community, landmark, or signage on the edge of the Delta or Suisun Marsh that serves as a gateway providing information to visitors about recreation opportunities available in the area and equipping them with supplies. ~~Communities, landmarks, or signage typically located at transition points in topography or land use that provide a unique sense of identity, transition, and anticipation to a region. A gateway may provide information to visitors about recreation opportunities available in an area and equip them with supplies.~~
general obligation bond~~s~~	A bond issued by the State ~~of California~~ where the principal and interest is paid out of the ~~State's g~~General F~~f~~und. This is different than a ~~In contrast to a State-issued~~ revenue bond, where the principal and interest is paid out of a specific ~~and~~ dedicated revenue source.
globally determined stressors	Stressors that result from large-scale human activities or natural processes that cannot be eliminated or mitigated within a limited purview and require larger- scale planning and adaptation (such as~~,e.g.~~ global climate change and~~,~~ human population growth).
g~~G~~overnment-sponsored flood control program	Any S~~s~~tate or federal strategy, project, approval, funding, or other effort that is intended to reduce the likelihood and/or consequence of flooding of real property and/or improvements, including risks to people, property, and State interests in the Delta, that is carried out pursuant to applicable law, including, but not limited to, the following codes: ~~Subventions Program, Special Projects Program (~~State Water Resources Law of 1945~~,~~ (Water Code section 12570 et seq.) Sacramento-San Joaquin River Flood Control Projects (Flood Control Act of 1941, Public

	Law 77–228)~~.~~ Local Plans of Flood Protection~~,~~ (Water Code s~~S~~ection ~~.tion~~ 8201) Central Valley Flood Protection Plan (Water Code section ~~.tion~~ 9600 et seq.) Subventions Program, Special Flood Control Projects ~~Program~~ (Water Code section ~~.tion~~ 12300 et seq.) ~~Way Bill 1973~~ Subventions Program, ~~Special Projects Program~~Delta Levee Maintenance (Water Code section 12980 et seq.) Central Valley Flood Protection Board Authority (California Code of Regulations Title 23 Division 1) National Flood Insurance Program (National Flood Insurance Act of 1968, 42 U~~.~~S~~.~~C~~.~~ 4001 et seq., Public Law 90-448)
GPCD	gallons per capita daily
groundwater basin	An alluvial aquifer or a stacked series of alluvial aquifers with reasonably well-defined boundaries in a lateral direction and having a definable bottom.
groundwater management plan	A comprehensive written document developed for the purpose of groundwater management and adopted by an agency having appropriate legal or statutory authority.
groundwater overdraft	The condition of a groundwater basin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin over a period of years during which water supply conditions approximate average conditions.
groundwater remediation	The ~~Involves~~ extract~~ing~~ion of contaminated groundwater from an aquifer followed by treatment and (1) replacement in the aquifer or (2) use for agricultural or municipal purposes~~, treating it, and then either putting it back in the aquifer or using it for agricultural or municipal purposes~~.
groundwater storage	~~Groundwater storage can be defined~~ Defined ~~in~~ three ~~different~~ ways depending on the context ~~of its use~~: (1) the quantity of water ~~that occurs~~ beneath the land surface ~~and~~that fills the pore spaces of the alluvium, soil, or rock formation ~~beneath the land surface~~; (2) the volume of usable physical space available to store water in the pore spaces of the alluvium, soil, or rock formation beneath the land surface; or (3) the act of storing water in the pore spaces of the alluvium, soil, or rock formation beneath the land surface.
HAB	harmful algal bloom
habitat	The location and the living and nonliving surroundings where a particular plant or animal lives~~. and its surroundings (both living and nonliving) and~~ Habitat includes the presence of a group of particular environmental conditions surrounding an organism including air, water, soil, mineral elements, moisture, temperature, and topography.
Habitat Conservation Plan (HCP)	A plan prepared under the Endangered Species Act by nonfederal parties ~~wishing~~in order to obtain permits for incidental taking of threatened and endangered species. The ~~plan~~HCP describes ~~outlines~~ ways to~~of~~ maintain~~ing~~, enhance~~ing~~, and protect~~ing~~ a given habitat type needed to protect species. The plan usually includes measures to minimize impacts, and might include provisions for permanently protecting land, restoring habitat, and relocating plants or animals to another area.
habitat restoration	The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning the majority of natural functions to the lost or degraded native habitat.
Hazard Mitigation Plan (HMP)	~~r~~Refers to levee guidance negotiated between various federal, state, and local agencies to assist in reducing the likelihood of repetitive flood damage to Delta levees and islands. This guidance provides geometric levee design criteria that, if maintained, makes a Delta levee maintaining agency eligible for federal disaster assistance funds in the event of a flood emergency. ~~Mitigation plans form the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. The planning process is as important as the plan itself. It creates a framework for risk-based decision making to reduce damages to lives, property, and the economy from future disasters. Hazard mitigation is sustained action taken to reduce or eliminate long-term risk to people and their property from hazards.~~
HCP	See Habitat Conservation Plan
HMP	See Hazard Mitigation Plan

hydraulic mining	~~A form of mining that uses~~The use of high-pressure jets of water to dislodge rock material or move sediment.
hydrodynamics	The description of the change in flow or motion of a liquid.
hydrologic region	A geographical division of the state based on ~~the~~ local hydrologic basins. The California Department of Water Resources divides California into 10~~en~~ hydrologic regions, corresponding to the state's major water drainage basins: North Coast, San Francisco Bay, Central Coast, South Coast, Sacramento River, San Joaquin River, Tulare Lake, North Lahontan, South Lahontan, and Colorado River.
incidental take permit	A ~~P~~permit issued by federal fisheries agencies~~the USFWS~~ that authorizes ~~the incidental~~ take of listed species incidental to otherwise lawful projects~~of a listed species~~. ~~The permit does not authorize the activities that result in take. The permit is submitted with a habitat conservation plan.~~
instream flow	The use of water within its natural watercourse as specified in a~~n agreement~~contract, a water rights permit, a court order, a Federal Energy Regulatory Commission~~FERC~~ license, or other documentation~~etc~~. ~~They~~Instream flows support natural ecosystems, create habitat for plants and animals, and may provide additional benefits ~~such as~~including recreation. *See also: flow requirements*.
integrated regional water management	~~Integrated regional water management (IRWM) is~~ A~~a~~ collaborative effort to manage all aspects of water resources in a specified region. Integrated regional water management ~~RWM~~ crosses jurisdictional, watershed, and political boundaries; involves multiple agencies, stakeholders, individuals, and groups; and attempts to address the issues and differing perspectives of all ~~the~~ entities involved through mutually beneficial solutions.
integrated regional water management plan (IRWMP)	~~A comprehensive plan for a defined geographic area, the specific development, content, and adoption of which shall satisfy requirements developed pursuant to this part.~~ At a minimum, an integrated regional water management plan describes the major water-related objectives and conflicts within a region~~,~~; considers a broad variety of water management strategies~~,~~; identifies ~~the~~an appropriate mix of water demand and supply management alternatives~~,~~; provides water quality protections~~,~~ and environmental stewardship actions to provide a long-term, reliable, and high-quality water supply; ~~and~~ protects the environment~~,~~; and identifies disadvantaged communities in the region ~~and takes~~ taking into account the water-related ~~needs~~requirements of those communities ~~into consideration~~.
invasive species	An alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112, 1999).
land reclamation	~~The process to create new land through channelization and levee construction of what was previously marsh land.~~ The process to recover land through channelization and levee construction of what was previously marsh land.
IRWMP	See integrated regional water management plan
~~I~~legacy c~~C~~ommunity~~ies~~	~~A legacy community is a~~A rural community registered as a Historic District by either a State or federal entity. Delta legacy communities include Bethel Island, Clarksburg, Courtland, Freeport, Hood, Isleton, Knightsen, Rio Vista, Ryde, Locke, and Walnut Grove ~~are the Delta's Legacy Communities~~ (Public Resources Code section 32301(f)).
legacy stressors	Stressors that result from past actions that cannot be undone, but whose impact can sometimes be reduced or mitigated (for example~~,e.g.~~ mercury pollution from historical gold mining~~.~~).
levee-maintaining agencies	Local special districts, typically ~~R~~reclamation d~~D~~istricts, ~~which~~that are public agencies formed for the purpose~~s~~ of levee maintenance and improvement~~s~~, among other duties, and are funded by local assessments.
levee standards	Standards designed to either establish minimum criteria that would make levees and the properties protected eligible for Federal Emergency Management Agency (FEMA) grants or U.S. Army Corps of Engineers (USACE) rehabilitation funds both in case of catastrophic emergency, or set minimum criteria that would allow development behind the levees. The four main applicable levee standards and guidance for the Delta are (1) FEMA Hazard Mitigation Plan ~~(HMP)~~ Guidance, (2) USACE Public Law 84-99 ~~(PL 84-99)~~, (3) FEMA 100-year (Base Flood) Protection ~~(FEMA 100-Year)~~, and (4) DWR 200-year Urban Levee Protection ~~(DWR 200-Year)~~.

low salinity zone (LSZ)	~~In an estuary, this zone is g~~Generally, ~~considered to be~~ the region in an estuary with salinity ranging from fresh water up to about 5 practical salinity units (psu), about one-seventh the salinity of sea water. The part of the salinity gradient centered on 2 psu is considered to be of particular importance because it is hypothesized to be an area where suspended particulate matter and organisms accumulate. The location in the Bay-Delta where the tidally averaged salinity at ~~one~~ 1 meter from the bottom is 2 psu is known as X2 (measured as distance in kilometers from the Golden Gate Bridge) and serves as a water quality objective ~~to~~ regulate~~e~~ing Delta outflow.
LTMS	Delta Dredged Sediment Long-Term Management Strategy
MAF	million acre-feet
managed wetland	Perched wetlands that receive human-induced seasonal flooding ~~by man to cause~~for marshland development.
MCL	maximum contaminant level
NAS	National Academy of Sciences
National Heritage Area (NHA)	~~A p~~Places designated by the ~~United States~~U.S. Congress where natural, cultural, historic, and recreational resources combine to form a cohesive, nationally ~~-~~distinctive landscape arising from patterns of human activity shaped by geography. These areas tell ~~nationally~~ important stories about ~~our~~the nation and are representative of the national experience through both the physical features that remain and the traditions that have evolved within them.
National Pollutant Discharge Elimination System (NPDES)	A permitting program ~~under section 402 of the Clean Water Act~~ required for all point sources discharging pollutants into waters of the United States. The purpose of the NPDES program is to protect human health and the environment~~.~~ (Clean Water Act of 1977, 33 USC section 1311).
Natural Community~~ies~~ Conservation Plan (NCCP)	A conservation plan created to meet the requirements of the Natural Community Conservation Planning Act, ~~(Fish and Game Code section 2800, et seq.) that~~ which identifies and provides for the regional or area~~-~~wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. The primary objective of the NCCP program is to conserve natural communities at the ecosystem level while accommodating compatible land use~~.~~ (Fish and Game Code section 2800 et seq.).
new water	Defined in part by California Department of Water Resources as water that is legally and empirically available for a beneficial use. New water can be developed through many strategies such as capturing surplus water, desalinating ocean water, and improving water efficiency.
NHA	See National Heritage Area
NMFS	National Marine Fisheries Service
nonnative species	Also called introduced or exotic species; refers to plants or animals that originate elsewhere and are brought into a new area, where they may dominate the local species or in some way negatively ~~impact~~ affect the environment for native species.
~~nonnative invasive species~~	~~An alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health(, as defined by Executiv Order 13112)~~
non~~-~~project levee	Local levees ~~or unattributed levees~~ owned or maintained by local agencies or private ~~owners. This means they~~owners that are not part of the State and federal levee system, and are not generally eligible for rehabilitation by the U.S. Army Corps of Engineers~~USACE~~. *See also: project levee*
nonpoint source pollution	Diffused sources that do not have a single point of origin or are not introduced into a receiving stream from a specific outlet. The pollutants are generally carried off the land by stormwater runoff. ~~The c~~Common~~ly used~~ categories ~~for~~ of non~~-~~point sources are~~:~~ agriculture, forestry, mining, construction, land disposal, and salt intrusion.
NPDES	National Pollutant Discharge Elimination System
NWR	National Wildlife Refuge

OP	organophosphorus
Paterno v. State of California	~~One of the most notable recent court decisions on flood liability was the California Court of Appeal decisionil~~In Paterno v. State of California ~~(2003) 113 Cal.App.4th 998.~~, ~~T~~the appellate court found the State ~~was~~ liable ~~to flooded landowners~~ for ~~inverse~~flood-related damages ~~condemnation damages~~ caused by the failure of a Yuba River levee ~~that~~incorporated into the State system of flood control, even though the State did not design, build, or even directly maintain it~~.~~ (Paterno v. State (2003) 113 Cal. App.4th 998 [6 Cal.Rptr.3d 854]).
PCB	polychlorinated biphenyl
peak flow	Maximum instantaneous flow in a specified period ~~of time~~.
p~~P~~elagic fish ~~(fish)~~	A f~~F~~ish species that spends most of its~~their~~ life swimming in the water column with little contact with or dependency on the bottom. Adult spawning usually occurs in open water, often near the surface.
pelagic organism decline (POD)	A steep decline leading to near-record low populations of four pelagic species in the San Francisco estuary – delta smelt, young striped bass, longfin smelt, and threadfin shad – widely recognized as a serious issue by 2004.
performance measures	A quantitative or qualitative tool to assess progress toward an outcome or goal. The Delta Plan must ~~shall~~ include performance measurements that will enable the Delta Stewardship ~~c~~Council to track progress in meeting the objectives of the ~~Delta P~~plan. ~~The p~~Performance measurements must ~~shall~~ include, but need not be limited to, quantitative or otherwise measurable assessments of the status and trends in all of the following: (1~~a~~)~~.~~ The health of the Delta~~'s~~ estuary and wetland ecosystem for supporting viable populations of aquatic and terrestrial species, habitats, and processes including viable populations of Delta fisheries and other aquatic organisms. (2~~b~~)~~.~~ The reliability of California water supply imported from the Sacramento River or the San Joaquin River watershed.
PL 84-99	See Public Law 84-99~~A federal levee standard developed by the USACE Public Law 84-99 (PL 84-99). Meeting this standard allows the Delta island or tract to be eligible for USACE funding for levee rehabilitation and island restoration after levee failures, and island inundation, provided that the reclamation district applies for and is accepted into the USACE's Rehabilitation and Inspection Program (RIP).~~
POD	See pelagic organism decline
point source	Any discernible, confined, and discrete conveyance~~,~~ including, but not limited to~~:~~ any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system ~~collection system~~, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigation agriculture or agricultural storm-water runoff (40 CFR 122.2).
pollutant~~s~~	~~This term is~~dDefined ~~in section 502(6) of the Clean Water Act~~ as "dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water~~.~~" (Clean Water Act of 1977, 33 USC section 1362(6)).
pollution	~~The term pollution is~~dDefined ~~in section 502(19) of the Clean Water Act~~ as the ~~"the~~ human-made or human-induced alteration of the chemical, physical, biological, and radiological integrity of water~~."~~ (Clean Water Act section 502(19); 33 USC section 1362(19)). Pollution is also defined ~~section 13050(1) of the California Water Code~~in California law as an alternation of the quality of the waters of the state by waste to a degree that unreasonably affects either the waters for beneficial uses or the facilities that serve these beneficial uses~~.~~ (Water Code section 13050(k)(1)).
ppb	parts per billion
ppm	parts per million

ppt	parts per thousand
project levee	A federal flood control levee that is a project facility under the State Water Resources Law of 1945 Chapter 1 (commencing with Water Code section 12570) and Chapter 2 (commencing with ~~S~~section 12639 of Part 6). Project levees are designed and maintained at criteria specified within California Code of Regulations Title 23, Division 1, ~~CCR~~ and are eligible for rehabilitation by the U.S. Army Corps of Engineers ~~USACE~~ under Public Law ~~PL~~ 84-~~-~~99. Approximately one-third of the levees in the Delta are ~~"~~project~~"~~ levees. *See also: non-project levee*
proposed action	For purposes of the Delta Plan, a program, plan, or project that meets the following criteria: Is a "Project," as defined by Section 21065 of the Public Resources Code. Will occur in whole, or in part, within the boundaries of the Delta or Suisun Marsh. Will be carried out, approved, or funded by the State or a local public agency. Will have a significant impact on the achievement of one or both of the coequal goals or the implementation of a government-sponsored flood control program to reduce risks to people, property, and State interests in the Delta. If the proposed action is also covered by one or more policies in Chapters 3 to 7 of the Delta Plan, it is a covered action. See Chapter 2 for additional details.
Public Law 84-99 (PL 84-99)	A federal levee standard developed by the U.S. Army Corps of Engineers (USACE). Meeting this standard allows the Delta island or tract to be eligible for USACE funding for levee rehabilitation, island restoration after levee failures, and island inundation, provided that the reclamation district applies for and is accepted into the USACE's Rehabilitation and Inspection Program.
Public Trust Doctrine	The ~~e~~is doctrine protects the ~~public's~~ right of the public to use ~~the~~ state~~'s~~ sovereign lands and waters for commerce, navigation, hunting, fishing, bathing, swimming, boating, and general recreational purposes, and also protects trust lands and waters in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments that ~~which~~ provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area. There is also a separate branch of the public trust doctrine ~~in California which~~ that protects the fishery resources in all ~~the~~ state~~'s~~ waters, including those in non-navigable waterways, as public trust resources in and of themselves.
~~r~~Reasonable and ~~b~~Beneficial ~~u~~Use Doctrine	~~Refers to the terminology used in California Constitution, Article X, section 2:~~ This doctrine states that a water right does not include the right to waste water and mandates that the water resources of the state be put to beneficial use. "It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. Riparian rights in a stream or water course attach to, but to no more than so much of the flow thereof as may be required or used consistently with this section, for the purposes for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses; provided, however, that nothing herein contained shall be construed as depriving any riparian owner of the reasonable use of water of the stream to which the owner's land is riparian under reasonable methods of diversion and use, or as depriving any appropriator of water to which the appropriator is lawfully entitled. This section shall be self-executing, and the Legislature may also enact laws in the furtherance of the policy in this section contained~~.~~" (California~~.~~ Constitution~~.~~ Article X section~~.~~ 2).
reasonable and prudent alternative	The regulations implementing section 7 of the Endangered Species Act ~~(50 CFR 402.02)~~ define reasonable and prudent alternatives as alternative actions, identified during formal consultation, that (1) can be implemented in a manner consistent with the intended purpose of the action, (2) can be implemented consistent with the scope of the action agency's legal authority, (3) are economically and technologically feasible, and (4) would, according to the National Marine Fisheries Service, avoid the likelihood of jeopardizing the continued existence of listed species and avert the destruction or adverse modification of critical

	habitat~~.~~ (Endangered Species Act of 1973, 16 USC section 1536).
Reclamation	Bureau of Reclamation
Recreation Proposal	*Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh*
regional ~~(water)~~ self-reliance	The degree to which a region~~al area~~ implements ~~regional~~ water management options ~~such~~so that it can provide for all of its needs for water from within its own borders.
regional water supplies	~~Those w~~Water supplies that are found or developed within a region~~al area~~ to be used within its own borders.
reservoir reoperation	Changes to existing operations and management procedures for existing reservoirs and conveyance facilities to increase water~~-~~-related benefits from these facilities.
resource management ~~strategies~~strategy	A project, program, or policy that helps federal, State, or local agencies manage water and related resources. Resource management strategies in the California Water Plan are grouped by ~~their~~ intended outcomes: reduce water demand, improve operational efficiency and transfers, increase water supply, improve water quality, practice resource stewardship~~;~~, and improve flood management. Although most of the resource management strategies have multiple potential benefits, any individual site-specific project or program within a resource management strategy may contribute only one, or a few, of the benefits.
r~~R~~iparian area	The land adjacent to a natural watercourse such as a river or a stream. Riparian areas support vegetation that provides important wildlife habitat and ~~, as well as~~important fish habitat when ~~sufficient to overhang~~shading the watercourse bank ~~of fall into the water~~.
RWCF	Stockton Regional Wastewater Control Facility
RWQCB	Regional Water Quality Control Board
SACOG	Sacramento Area Council of Governments
S~~s~~afe ~~h~~Harbor A~~a~~greement~~s~~	A v~~V~~oluntary agreement~~s~~ made between wildlife agencies and landowners in order to ~~whose actions contribute to the~~ recover~~y of~~a listed species.
SAV	submerged aquatic vegetation
SB	Senate Bill
SDWSC	Stockton Deep Water Ship Channel
s~~S~~ea level rise	A change in average global sea level caused by a change in ocean volume. Often discussed in relation to climate change. ~~[under development]~~
seepage	Percolation of water through the soil from unlined canals, ditches, laterals, watercourses, or water storage facilities.
SEMS	See Standardized Emergency Management System
sensitive species	Species not yet officially listed but undergoing status review for listing on the U.S. Fish and Wildlife Service's official threatened and endangered list; species whose populations are small and widely dispersed or restricted to a few localities; and species whose numbers are declining so rapidly that official listing may be necessary.
setback levee~~s~~	~~Setback levees may expand flood conveyance capacity and reduce flood risk while providing ecosystem restoration and recreational opportunities~~A levee that is constructed at a distance from the river channel in order to allow the river to occupy a portion of the floodplain.
SFD	San Felipe Division
significant impact	~~A change in existing conditions that is directly, indirectly, and/or cumulatively caused by a project and that will have a substantial~~A change in baseline conditions that is directly or indirectly caused by a project and that, on its own or when considered cumulatively in connection with the effects of past projects, other current projects, and probable future projects, will have a substantial impact on the achievement of one or both of the coequal goals or ~~the~~an impact on implementation of government-sponsored flood control programs to reduce risks to people, property, and State interests in the Delta. ~~The~~A substantial impact ~~can~~may be positive (for example~~e.g.~~, an ecosystem restoration action that ~~would~~ provides benefits to endangered fish species), negative (for example~~e.g.~~, a water management action that ~~would~~ results in the pollution of Delta waters or increases the risk

	of introducing harmful nonnative species), or both positive and negative (for example~~e.g.~~, a flood protection action that ~~would~~ removes vegetation on levees in an effort to strengthen them~~,~~ but, in so doing, ~~would~~ also reduces riparian habitat critical to recovery of native fish species).
SMPP	BCDC's *Suisun Marsh Protection Plan*
special-status species	Any species ~~which~~that is listed, or proposed for listing, as threatened or endangered by the U.S. Fish and Wildlife Service or National Marine Fisheries Service under the provisions of the Endangered Species Act; any species designated by the U.S. Fish and Wildlife Service as a "listed," "candidate," "sensitive," or "species of concern~~,~~"; and any species ~~which is~~ listed by the State in a category implying potential danger of extinction.
SPFC	State Plan of Flood Control
Standardized Emergency Management System (SEMS)	~~The Standardized Emergency Management System (SEMS) is e~~Established throughout California to manage and coordinate any emergency response involving more than one agency or jurisdiction. It is the cornerstone of ~~California's~~the emergency response system and the fundamental structure for the response phase of emergency management. SEMS is authorized under ~~required by~~ the California Emergency Services Act ~~(ESA)~~ for managing multiagency and multijurisdictional responses to emergencies in California.
State	State of California
~~statutory exemptions~~	~~Activities specified in the statute (Water Code section 85057.5(b)) that are not covered actions.~~
stormwater capture system	A ~~stormwater capture system is a~~ facility ~~that is~~ operated by a public agency and designed to capture and retain stormwater flowing upon the public right-of-way, or through a public stormwater management system or a public stormwater drainage system, for subsequent use.
stressors (ecosystem)	Actions or factors, whether ~~by~~ humans or natural~~e~~, that cause negative impacts on desirable ecosystem elements, processes, and functions. *See also: globally determined stressor, legacy stressors, current stressors, and anticipated future stressors*
stressor fees	A companion principle to "user fee", stressor fees are ~~fees~~ paid by ~~parties~~persons ~~or activities that~~who have been identified as ~~placing~~ stressing ~~on the~~ Delta natural systems. The fees ~~would~~ fund regulatory and restoration programs.
subsidence	Sinking of the land surface due to a number of factors, ~~such as~~including groundwater extraction, agricultural activities, or oil or gas extraction. In the Delta, land subsidence is mainly caused by oxidation of peat soils, but also from wind erosion. Drainage and cultivation drie~~d~~s the saturated peat, reducing its volume by approximately 50 percent.
subsidence reversal	The exposure of ~~the~~ bare peat soils to air causes oxidation and decomposition, which results in subsidence, or a loss of soil elevation, on Delta islands. Flooding these lands and managing them as wetlands reduces ~~their~~ exposure to oxygen, ~~so there is~~resulting in less decomposition of organic matter, which stabilizes land elevations. Wetland vegetation cycles lead to biomass accumulation, which sequesters carbon and helps stop and reverse subsidence. As subsidence is reversed, land elevations increase and accommodation space (the space in the Delta that lies below sea level and is filled with neither sediment nor water)~~,~~ on individual islands is reduced. A reduction in accommodation space decreases the potential for ~~drinking~~ water quality impacts from salinity intrusion in the ~~case~~event of one or more levee breaks on deeply subsided Delta islands.
subventions	~~Financial support in the form of~~Payments made by ~~State~~the State in the form of matching funds for the purpose~~s~~ of maintaining and improving Delta levees. The Delta Levees Maintenance Subventions Program is a cost share program ~~that provides~~providing technical and financial assistance to local levee~~-~~-maintaining agencies in the Sacramento–San Joaquin Delta for the maintenance and rehabilitation of nonproject and eligible project levees. The ~~S~~subventions p~~P~~rogram is authorized by ~~California~~ Water Code s~~S~~ections 12980 through 12995 and is managed by the California Department of Water Resources.
surface storage	~~Uses r~~Reservoirs used to collect and hold water for ~~later~~future release and use.
surface water	~~All~~Water naturally open to the atmosphere including rivers, lakes, reservoirs, ponds, streams, impoundments, seas, and estuaries.

sustainable communities strategy~~ies~~	~~Required by SB 375 as a component of Regional Transportation Plans.~~ Regional transportation agencies are required to develop a sustainable communities strategy~~ies.~~ ~~in order~~The strategy is intended to demonstrate how the region will meet its greenhouse gas reduction target through integrated land use, housing, and transportation planning. ~~to reduce greenhouse gas emissions from driving.~~
SWP	State Water Project
SWRCB	State Water Resources Control Board
threatened species	As defined by the California Endangered Species Act, "a threatened species is ~~" means~~ a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by ~~this chapter~~the act. Any animal determined ~~by the commission as~~to be ~~"~~rare~~"~~ on or before January 1, 1985, is a ~~"~~threatened species.~~"~~ (~~California~~ Fish and Game Code s~~S~~ection 2067).
THM	trihalomethanes
tiered fee structures	Refers to a ~~"~~block-~~"~~ type ~~of~~ fee structure where the unit price of a quantified benefit or impact, such as the amount of water used or the volume of contaminants discharged, increases with each additional block of benefit or impact.
TMDL	See total maximum daily load
total maximum daily load (TMDL)	A calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards.~~An evaluation of the condition of an impaired surface water on the Section 303(d) List that establishes limitations on the amount of pollution that water can be exposed to without adversely affecting its beneficial uses, and allocating proportions of the total limitation among dischargers to the impaired surface water.~~
total water use	In the Delta Plan, refers to 60 to 65 million acre-feet of water in California that goes to urban, agricultural, and Central Valley environmental water uses such as in-stream flow requirements and non-CVP managed wetlands.
tributary	A ~~smaller~~ river or stream that flows into a larger river or stream. Usually, a number of smaller tributaries merge to form a river.
unimpaired flow	~~Unimpaired runoff representst~~The natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds.
u~~U~~rban area	A developed area ~~in which there are~~of 10,000 or more residents ~~or more~~.
u~~U~~rbanizing area	A developed area or an area outside a developed area that is planned or anticipated to have 10,000 or more residents ~~or more~~ within the next 10 years.
urbanization	The expansion of residential, commercial, and industrial development into rural areas or areas that may have previously been used for agricultural or ecosystem habitat.
urban water management plan (UWMP)	~~The Urban Water Management Planning Act requires urban water suppliers to prepare urban water management plans that describe and evaluate sources of water supplies, efficient uses of water, demand management measures, implementation strategies and schedules, and other relevant information and programs within their water service areas. Urban Water Management Planning Act – California Water Code Sections 10610 through 10657).~~ A plan prepared and adopted by an urban water supplier that describes and evaluates sources of water supplies that are available to the supplier over a period of 20 years into the future. The plan includes an analysis, based on best available information, of existing water demands and supplies, projections for future water demands and supplies, water supply reliability and shortage contingency, and an implementation plan for demand management measures, including a plan for contributing to the state's 20 percent reduction in urban per capita water use by 2020 (commencing with Water Code section 10630 of Chapter 3; see also Water Code section 10608.20 et seq.) The plan also includes a strategy and time schedule for implementation of identified projects and programs (Water Code section 10615). Each urban water supplier shall update its plan at least once every 5 years on or before December 31 in years ending in "5" and "0" (Water Code section 10620[a]).
urban water supplier	A supplier, either publicly or privately owned, that provides~~providing~~ water for municipal

	purposes either directly or indirectly to more than 3,000 customers or supply~~ying~~ies more than 3,000 acre-feet of water annually. An urban water supplier includes a water supplier or contractor ~~for water,~~, regardless of the basis of right, which distributes or sells water for ~~ultimate~~ resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with s~~S~~ection 116275) of Health and Safety Code Division 104 Part 12 ~~of Division 104 of the Health and Safety Code. (California~~ Water Code ~~S~~section 10617~~)~~.
urban water use	The use of potable and non~~-~~potable water for urban purposes including, but not limited to, residential, commercial, industrial, recreation, energy production, military, and institutional purposes.~~classes. These are types of uses rather than places of use.~~
urban water use efficiency	~~Methods or technologies resulting in the same beneficial residential, commercial, industrial, and institutional uses with less water or increased beneficial uses from existing water quantities.~~ Water management measures that are implemented in residential, commercial, industrial, and institutional settings that reduce water and per capita water use and result in the most effective use of water to prevent its waste, unreasonable use, or unreasonable method of use.
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
user fees	Fees ~~used~~proposed to fund ~~the~~ programs identified in the Delta Plan that are paid by the users or beneficiaries of those programs. ~~The f~~Fees ~~can~~may be volume-based or impact-based.
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	See urban water management plan
vector-borne disease	Disease that results from an infection transmitted to humans and other animals by blood-feeding anthropods, ~~such as~~including mosquitoes, ticks, and fleas. Examples of vector-borne diseases include Dengue fever, viral encephalitis, Lyme disease, and malaria.
waste discharge requirement (WDR)	~~The~~An order adopted by a ~~the R~~regional water b~~B~~oard~~s~~ that regulates and permits specified discharges of waste to surface water and discharges of waste to land. ~~WDRs are often synonymous with "permits."~~
water balance	An analysis of the total developed/dedicated supplies, uses, and operational characteristics of water ~~for~~in a region~~;~~. The analysis is intended to determine if ~~shows what water was applied to~~ actual water use~~s so that use~~ equals supply.
water conservation	~~The practice of minimizing the amount of water used for a purpose.~~ The efficient management of water resources for beneficial uses, preventing waste, or accomplishing additional benefits with the same amount of water.
water demand	~~The desired quantity of water that would be used if the water is available and a number of other factors such as price do not change. Demand is not static.~~ An economic principle that describes ~~a~~ consumer~~'s~~ desire and willingness to pay a price for a specific amount of water~~good or service~~. Holding all other factors constant, the price of a good or service increases as its demand increases and vice versa.
water export	The amount of water that a hydrologic region transfers to another ~~to meet needs~~ hydrologic region. *See also: Delta exports*
water import	The amount of water ~~that~~ brought in from another hydrologic region or regions ~~to meet needs~~.
water quality criteria	~~These are n~~Numeric limitations or levels (for example, concentrations) or narrative statements ~~that are~~ established to protect uses of a water body under the authority of the Clean Water Act. This term has two separate meanings: (1) Water quality criteria promulgated by the U.S. Environmental Protection Agency~~PA~~ under Clean Water Act s~~S~~ection 303(c) ~~of the CWA~~ are enforceable components of water quality standards. (2) Recommended water quality criteria published under Clean Water Act s~~S~~ection 304(a) ~~of~~

	~~the CWA~~ are advisory and may be used by states and tribes to develop their own water quality standards or to implement narrative criteria in water quality standards.
water quality objectives	~~Pursuant to the Water Code, these are n~~Numeric limitations or levels (concentrations or narrative statements) that are established for the reasonable protection of the beneficial uses of a water body. Determination of what is reasonable may include factors that are not required in federal development of a water quality criterion. Water quality objectives ~~may be found~~are included in ~~the~~ ~~W~~water ~~Q~~quality c~~C~~ontrol p~~P~~lans adopted by r~~R~~egional w~~W~~ater ~~Quality Control B~~boards.
water quality standards	Pursuant to the federal Clean Water Act, water quality standards are provisions of state or federal law that define the water quality goals of a water body, or portion thereof, by establishing (a) designated uses of water to be protected, and (b) water quality criteria to protect those uses. Water quality standards are enforceable in the bodies of water for which they have been promulgated.
water recycling	(1) ~~Treating~~T~~t~~he treatment of waste~~-~~water to remove solids and certain impurities~~,~~ to meet a beneficial use or a controlled use~~d~~ that would not otherwise occur, thus supplanting or augmenting a potable, or potentially potable, supply. (2) ~~Treating~~T~~t~~he treatment of municipal, industrial, or agricultural wastewater ~~to produce water that can be reused~~ for reuse.
watershed	The land area that drains into a stream. The watershed for a major river may encompass a number of smaller watersheds ~~that ultimately combine at a common point~~.
water shortage contingency element	The Urban Water Management Planning Act requires ~~that~~ water suppliers to include a ~~W~~water s~~S~~upply r~~R~~eliability and w~~W~~ater s~~S~~hortage c~~C~~ontingency element in ~~their~~ u~~U~~rban w~~W~~ater m~~M~~anagement p~~P~~lans, recognizing that suppliers need to prepare for extended droughts or the potential catastrophic interruption of water deliveries ~~through~~due to earthquakes or other events.
water supply reliability	See text box in Chapter 3, What Does It Mean to Achieve the Goal of a More Reliable Water Supply for California?
water supply reliability element	Required components of~~:~~ u~~U~~rban w~~W~~ater m~~M~~anagement p~~P~~lans (Water Code section 10631(c))~~,~~: a~~A~~gricultural w~~W~~ater m~~M~~anagement p~~P~~lans (Water Code section 10826 (b)(7))~~,~~: and i~~I~~ntegrated r~~R~~egional w~~W~~ater m~~M~~anagement p~~P~~lans (Water Code section 10540(c)(1)).
water transfer	~~A water transfer is defined in the Water Code as a~~A temporary or long-term change in the point of diversion, place of use, or purpose of use due to a transfer or exchange of water or water rights. Many transfers, ~~such as those~~including transfers among contractors of the State Water Project or Central Valley Project, do not fit this definition. A more general definition ~~is that~~of a water transfer~~s are~~is a voluntary change in the way water is ~~usually~~normally distributed among water users in response to water scarcity. Compared to water exchanges, which are typically water delivered by one water user to another water user; the receiving water user will return the water at a specified time or when the conditions of ~~the parties to~~ the agreement are met~~.~~ (Water Code section 1735).
~~water user~~	~~Any individual, district, association, government agency, or other entity that uses water supplied.~~
~~water use efficiency~~	~~See: agricultural water use efficiency and urban water use efficiency~~
water year	A compilation of ~~H~~hydrologic records ~~are compiled and summarized~~ collected over ~~for~~ a 12-month~~s~~ period. ~~Different agencies may use different calendar periods for their water years.~~
water year-type classifications	California Department of Water Resources uses five water year-type classifications for planning and water management purposes: wet, above normal, below normal, dry, and critically dry.
WDR	See waste discharge requirement.
Wild and Scenic River	~~Wild and Scenic River~~ A State- and federal-designated river system~~;~~ that includes 17 California rivers and their ~~in California including~~ many forks and tributaries~~,~~. ~~about~~Approximately 1,900 miles of river are ~~designed~~designated wild, scenic, or recreational~~.~~ under ~~Authority: 1968~~ the National Wild and Scenic Rivers Act (1968) and the California Wild and Scenic Rivers Act of 1972.
X2	The location in the Bay-Delta where the tidally averaged salinity is 2 parts per thousand.

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